

REMARKS

This Response is in reply to the Final Office Action mailed on November 27, 2006.

Claims 1-5 and 7-10 are pending. Claim 1 has been amended to more distinctly claim the invention. No new matter has been added. Entry and consideration of the amendments and the following remarks is respectfully requested.

REJECTIONS UNDER 35 USC § 103(a)

Claims 1-5 and 7-10 stand rejected as obvious over Brink et al. ('111) in view of Hess et al. ('619). Claim 2 stands rejected over Brink in view of Hess, and further in view of Dehaas ('968). Claim 10 stands rejected over Brink and Hess, and further in view of Purdy et al. ('637) and Hermessec ('908). The rejections are respectfully traversed.

In the previous office action, Examiner concedes that Brink does not disclose that the evaporable compounds are recovered before gasification. In fact, Brink expressly discloses that solid residue is collected along with the gases and transferred to a second zone (col. 3, lines 5-8). However, Examiner proceeds to argue that it would have been obvious to one of ordinary skill in the art at the time of invention to modify Brink by recovering gases produced by pyrolysis as purportedly taught by Hess. The Examiner posits that the motivation to combine the two references stems from the presence of substantial amounts of dimethyl sulfide which may be recovered as a valuable by-product of the process. It is on this point that Applicant respectfully traverses the rejection.

A primary concern of Brink is to prevent formation of atmospheric pollutants in the combustion of organic material (col. 1, lines 54-58). More specifically, the object of Brink is to prevent recombination reactions of intermediate products comprising carbon free radicals to

prevent formation of saturated and unsaturated aliphatic and polynuclear aromatic atmospheric pollutants. In order to achieve this objective, the process of Brink comprises destructive distillation and pyrolysis. While the process may be carried out in two enclosed zones, the material from the first zone is passed *in its entirety* to the second zone. Passing the material in its entirety from the first zone to the second zone is a critical step in preventing recombination reactions. Interrupting the process by taking out reactive intermediate products from the first zone prior to transferring the reaction products to the second zone would directly contradict the teachings of Brink.

The MPEP, backed by case law, clearly states that a proposed modification cannot render the prior art unsatisfactory for its intended purpose. MPEP 2143.01(V) citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Modifying Brink to remove intermediate products would frustrate Brink's intended purpose of preventing the formation of atmospheric pollutants in the combustion of organic material. According to Brink, a stable clean burning fuel can only be recovered from the second zone. Intermediate recovery would disrupt the process of Brink possibly leading to recombination reactions and the formation of atmospheric pollutants.

Furthermore, it is well established that a proposed modification cannot change the principle of operation of a reference. MPEP 2143(VI) citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). The operating principle of Brink is that recombination reactions are prevented by maintaining an elevated cracking temperature during destructive distillation and pyrolysis, allowing the fuel to discharge from the first zone, removing the hydrogen sulfide, and discharging the smelt from the second zone for recovery of chemicals therefrom (Claim 8). Brink teaches that recombination reactions are prevented by maintaining the temperature above 800 degrees C in the second zone. Removing intermediate products from the first zone would

interfere with Brink's principle of operation by not allowing the fuel to pass from the first zone to the second zone to complete the process. Accordingly, there can be no suggestion to modify or combine the teachings of Brink with those of Hess.

Even assuming *arguendo* that the references can be properly combined, the combination would still not result in the claimed invention. The claimed invention requires that there be two reactors, a pyrolysis reactor and a gasification reactor. There is a recovery from each one of the reactors. The recovery from the pyrolysis reactor yields a product gas of a quality that differs from the product gas of the gasification reactor. Neither Brink nor Hess, either alone or in combination, teach or suggest a process in which two product gases of a different quality are generated and separated, the first recovery from a pyrolysis reactor and the second recovery from a gasification reactor. The product gases of the claimed invention have different qualities that permit them to be utilized in different ways. In contradistinction, neither Brink nor Hess discloses the recovery of two gas products having varying qualities. Accordingly, the claims are patentable. Examiner is respectfully requested to withdraw the rejection.

The Dehaas reference also fails to teach the claimed invention even in combination with Brink and Hess. The shortcomings of Brink and Hess are not disclosed in Dehaas. Furthermore, specifically with regard to claim 2, the Dehaas reference does not teach a gasification reactor connected in parallel with a recovery boiler.

Similarly, the Purdy and Hermessec references do not teach the shortcomings of the primary references, Brink and Hess.

CONCLUSION

In view of the amendments to claims 1 made herein and the arguments presented above, it is submitted that the Examiner's rejections have been overcome and should be withdrawn. The application should now be in condition for allowance.

Should any changes to the claims and/or specification be deemed necessary to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned to discuss the same.

This Response is being timely filed. In the event that any other extensions and/or fees are required for the entry of this Amendment, the Patent and Trademark Office is specifically authorized to charge such fee to Deposit Account No. 23-2820 in the name of Wolf, Block, Schorr & Solis-Cohen LLP. An early and favorable action on the merits is earnestly solicited.

Respectfully submitted,
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LLP.

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